CLAIMS

What is claimed is:

1. A current sense circuit, the circuit comprising:

a current sense device positioned to sense a drive current provided by a drive circuit to a load; and

a voltage sense device coupled across the current sense device, the voltage sense device receiving a threshold signal at a first input and providing an output signal on an output whose value is dependent on whether a sense signal representing the sensed drive current and applied to a second input is above or below the threshold signal, wherein a level of the threshold signal changes in response to a voltage level of a power supply that supplies the drive current to the drive circuit.

2. The circuit of claim 1, wherein the load is an electrochromic element.

3. The circuit of claim 1, wherein the current sense device is a resistor.

4. The circuit of claim 1, wherein the voltage sense device is a differential amplifier.

5. The circuit of claim 1, wherein the output of the voltage sense device is coupled to an input of a control unit, and wherein the control unit controls a level of the drive current provided by the drive circuit in response to the output signal.

6. The circuit of claim 1, wherein the threshold signal has substantially the same current-to-voltage characteristics as the drive circuit.

7. The circuit of claim 1, wherein the threshold signal is limited to provide a piecewise-linear continuous function.

8. The circuit of claim 1, wherein the threshold signal is fixed.

9. The circuit of claim 1, wherein the threshold signal is variable.

10. A current sense circuit, the circuit comprising:

a sense resistor positioned to sense a drive current provided by a drive circuit to a load; and

a differential amplifier having a positive input and a negative input coupled across the sense resistor, the differential amplifier receiving a threshold signal at the negative input and providing an output whose value is dependent on whether a sense signal representing the sensed drive current and applied to the positive input is above or below the threshold signal, wherein a level of the threshold signal changes in response to a voltage level of a power supply that supplies the drive current to the drive circuit.

11. The circuit of claim 10, wherein the load is an electrochromic element.

12. The circuit of claim 10, wherein the output of the voltage sense device is coupled to an input of a control unit, and wherein the control unit controls a level of the drive current provided by the drive circuit in response to the output signal.

13. The circuit of claim 10, wherein the threshold signal has substantially the same current-to-voltage characteristics as the drive circuit.

14. The circuit of claim 10, wherein the threshold signal is limited to provide a piecewise-linear continuous function.

15. The circuit of claim 10, wherein the threshold signal is fixed.

16. The circuit of claim 10, wherein the threshold signal is variable.

17. A mirror assembly, comprising:

an electrochromic element;

a drive circuit for providing a drive current to the electrochromic element;

a current sense device positioned to sense the drive current provided by the drive circuit; and

a voltage sense device coupled across the current sense device, the voltage sense device receiving a threshold signal at a first input and providing an output signal on an output whose value is dependent on whether a sense signal representing the sensed drive current and applied to a second input is above or below the threshold signal.

18. The assembly of claim 17, wherein a level of the threshold signal changes in response to a voltage level of a power supply that supplies the drive current to the drive circuit.

19. The assembly of claim 17, wherein the current sense device is a resistor.

20. The assembly of claim 17, wherein the voltage sense device is a differential amplifier.

21. The assembly of claim 17, wherein the output of the voltage sense device is coupled to an input of a control unit, and wherein the control unit controls a level of the drive current provided by the drive circuit in response to the output signal.

22. The assembly of claim 17, wherein the threshold signal has substantially the same current-to-voltage characteristics as the drive circuit.

23. The assembly of claim 17, wherein the threshold signal is limited to provide a piecewise-linear continuous function.

24. The assembly of claim 17, wherein the drive circuit varies a drive voltage applied to the electrochromic element, and wherein the threshold signal changes in response to a voltage

level of a power supply that supplies the drive current to the drive circuit.

25. The circuit of claim 17, wherein the threshold signal is fixed.

26. The circuit of claim 17, wherein the threshold signal is variable.